REMARKS

This paper is submitted in response to the Office Action mailed March 4, 2004 and accompanies the filing of a Petition to Revive Abandoned Application under 37 C.F.R §1.137(b) and a Petition to Extend Time for a period of three months.

Status of the Claims

Following this amendment, claims 25-43 and 92-155 are pending. Claims 1-24 were previously cancelled and claims 44-91 are cancelled with the present submission. Claims 25, 26, 29, 30, 36, 37, 39 and 40 have been amended, as discussed below. Furthermore, claims 27, 31, 34, 38, and 41 have been amended to recite a 5' *splice* site, rather than a 5' *donor* site. This amendment was made to provide consistency among the claims and support for the amendment to these claims can be found in the specification at page 20, line 9; page 23, line 4; page 24, line 9. In addition, new claims 92-155 have been added. Support for the amendments and new claims can be found throughout the specification and claims as originally filed and there is no new matter added as a consequence of the amendments or new claims.

Claims 91-145 have been added to replace have cancelled claims 44-91. Claims 92, 93, 105, 106, 114, 115, 125, 126, 136 and 137 correspond substantively to original claims 1, 2, 8, 9, 11, 12, 16, 17, 21 and 22. These claims relate to pre-trans-splicing molecules comprising one or more target binding domains wherein said target binding domain is "between 10 and 600 nucleotides in length." Specific support for the addition of the new claims can be found in the specification as filed, in particular, in the originally filed set of claims. In addition, the specification clearly provides such support at page 21, lines 3-4, referring to a preferred

embodiment of the invention where the binding domains may comprise "at least 10 to 30 and up to several hundred."

With regard to newly added claims 94, 97, 107, 110, 116, 119, 127, 130, 138 and 141, Applicant submit that support for the addition of these claims can be found in the specification and claims as filed. These claims relate to pre-trans-splicing molecules comprising one or more target binding domains wherein said target binding domain is "between 15 and 500 nucleotides." The present application incorporates by reference parent applications, which provide support for the lower limit of the claimed range, i.e. 15 nucleotides. The present application is a continuation-in-part of pending application serial number 09/158,863, filed September 23, 1998, now U.S. 6,280,978, which is a continuation-in-part of serial number 09/133,717, filed on August 13, 1998, now U.S. 6,083,702, which is a continuation-in-part of serial number 09/087,233 filed on May 28, 1998, which is a continuation-in-part of pending application serial number 08/766,354, filed on December 13, 1996, now U.S. 6,013,487, which claims benefit to provisional application number 60/008,317 filed on December 15, 1995. For example, support can be found in U.S. 6,013,487 at col. 6, lines 36-37. Applicants further submit that support for the upper limit of 500 nucleotides can be found at page 21, lines 3-4, which refers to the binding domains comprising "at least 10 to 30 and up to *several* hundred." In addition, Example 11 of the present application presents pre-trans-splicing molecules having very long binding domains and an example of a pre-trans-splicing molecule having a binding domain of 411 nucleotides (specification, page 93, lines 10-12). Applicants assert that one of skill in the art would find support in the specification for the upper limit of 500 nucleotides in the target binding domain based on the pre-trans-splicing molecule disclosed in Example 11 and the disclosure of *several* hundred nucleotides. Taken together, Applicants submit that the

specification provides support for the addition of claims 94, 97, 107, 110, 116, 119, 127, 130, 138 and 141.

With regard to newly added claims 95, 98, 108, 111, 117, 120, 128, 131, 139 and 142, Applicant submit that support for these claims can be found in the specification and claims as filed. These claims relate to pre-trans-splicing molecules comprising one or more target binding domains wherein said target binding domain is "between 15 and 411 nucleotides." As indicated in the prior paragraph, support for the lower limit of 15 nucleotides can be found in the parent applications. Express support for the upper limit of 411 nucleotides can be found in the specification at page 93, lines 10-12. Therefore, Applicants assert that there is clear support for the addition of new claims 95, 98, 108, 111, 117, 120, 128, 131, 139 and 142.

With regard to newly added claims 96, 99, 109, 112, 118, 121, 129, 132, 140 and 143, Applicant submit that support for these claims can be found in the specification and claims as filed. These claims relate to pre-trans-splicing molecules comprising one or more target binding domains wherein said target binding domain is "between 200 and 411 nucleotides." Express support for the claimed range of nucleotides in the target binding domain can be found in the specification at page 93, lines 8-12.

With regard to claims 146-155, Applicants submit that support for the addition of these claims can be found in the specification and claims as filed. These claims relate to pre-trans-splicing molecules comprising one or more target binding domains wherein said target binding domain is "at least 15-30 nucleotides and up to several hundred nucleotides in length." Since the present application incorporates by reference parent applications, e.g. U.S. 6,013,487, which disclose support for the recited range at at col. 6, lines 36-37, Applicants submit that there is clear support for the addition of claims 146-155.

The Rejections Under 35 U.S.C. §112, First Paragraph

Claims 44-91 are rejected under 35 U.S.C. §112, first paragraph, as failing to comply with the written description requirement. The Examiner alleges that the claims contain subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the art that the inventors at the time the application was filed, had possession of the claimed invention.

Claims 44-91 have been cancelled and therefore the rejection is rendered moot.

In addition, Applicants submit that new claims 92-155 comply with U.S.C. §112, first paragraph. Support for the addition of the claims are discussed in the prior section.

The Rejections Under 35 U.S.C. §112, Second Paragraph

Claims 25-31, 36-42 and 63 are rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. According to the Examiner, Claims 25, 26, 29, 30, 36, 37, 39 and 40 are indefinite in that there is no antecedent basis for "the target pre-mRNA." Claims 25, 26, 29, 30, 36, 37, 39 and 40 have been amended to correct the lack of antecedent basis. The Examiner has also deemed claim 63 indefinite for the recitation of "the translatable protein product." Claim 63 has been cancelled and replaced by new claim 135, which depends from claim 134 and recites proper antecedent basis for "the translatable protein product." For the foregoing reasons, Applicants submit that the pending claims are not indefinite.

Double Patenting Rejections

Claims 36 and 38 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 32 and 33 of U.S. Patent

No. 6,013,487. Claims 39-43 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 28-31 and 33 of U.S. Patent No. 6,083,702.

As indicated in prior responses, Applicants will submit a terminal disclaimer, if appropriate, once Applicants have successfully overcome the remaining outstanding rejections and the Examiner has indicated allowance of claims.

The Claims Are Not Anticipated

Claims 68, 71, 73, 75, 78, 81-83, 86-88 and 91 are rejected under 35 U.S.C. § 102(b) as being anticipated by Puttaraju *et al.* (1999, *Nat. Biotechnol.* 17:246-252;"Puttaraju").

According to the Examiner, Puttaraju teaches a nucleic acid molecule comprising a target binding domain 18 nucleotides in length, a 3' splice region comprising a branchpoint, a pyrimidine tract and a 3' splice acceptor site, a spacer region that separates the 3' splice region from the target binding domain, and a nucleotide sequence to be *trans*-spliced. The Examiner alleges that the target binding domain taught by Puttaraju falls in the range set forth in claims 68, 71, 73, 75, 78, 81-83, 86-88 and 91, teach all the limitations of and are anticipated by the claims.

Claims 68, 69, 71-76, 78, 79, 81-84, 86-89 and 91 are rejected under 35 U.S.C. §102(b) as being anticipated by Mitchell (WO 97/22250; "Mitchell"). According to the Examiner, Mitchell teaches all the limitations of claims 68, 69, 71-76, 78, 79, 81-84, 86-89 and 91, with the exception that the target binding domain in the present claims is limited to between 15-200 nucleotides. The Examiner further alleges that the target binding domain in Mitchell falls within the range set forth in claims 68, 69, 71-76, 78, 79, 81-84, 86-89 and 91. The

Examiner, therefore, alleges that Mitchell teaches all the limitations of and anticipate claims 68, 69, 71-76, 78, 79, 81-84, 86-89 and 91. Applicants respectfully disagree.

Applicants have canceled claims 44-91 and replaced them with new claims 92-145. New claims 92, 93, 105, 106, 114, 115, 125, 126, 136 and 137 refer to nucleic acid molecules comprising "one or more target binding domains wherein said target binding domain is between 10 and 600 nucleotides in length." For such claimed subject matter, Applicants claim priority back to parent applications. In particular, U.S. 6,013,487 discloses "a nucleic acid molecule comprising a target binding domain of "at least 15-30 nucleotides (and up to several hundred nucleotides or more)" (col. 6, lines 36-37). The specification clearly supports a nucleotide range encompassing the upper limit of 600 nucelotides, with the disclosure of "up to several hundred nucleotides or more." One of skill in the art would also clearly be able to recognize that the earlier application, from which the present application claims priority, would provide support for the lower limit of 10 nucleotides. In addition, U.S. 6,013,487, filed as U.S.S.N 08/766,354 on December 13, 1996, and is the corresponding U.S. patent application to Mitchell et al. cited by the Examiner. Since both U.S. 6,013,487 and Mitchell et al. were filed on the same day and claim the benefit of the same application, provisional application no. 60/008,717, and the present application claims priority ultimately to these applications, Mitchell et al. cannot be a reference to the present application. Likewise Puttaraju cannot be a reference, since it was published after the priority date of the present application, and teaches no more than what was disclosed in the priority application. Thus, the cited references cannot anticipate claims 92, 93, 105, 106, 114, 115, 125, 126, 136 and 137.

New claims 94, 97, 107, 110, 116, 119, 127, 130, 138 and 141 refer to pre-trans-splicing molecules comprising one or more target binding domains wherein said target binding

domain is "between 15 and 500 nucleotides." For such claimed subject matter, Applicants claim priority back to parent applications. U.S. 6,013,487 discloses "a nucleic acid molecule comprising a target binding domain of "at least 15-30 nucleotides (and up to several hundred nucleotides or more)" (col. 6, lines 36-37). The specification clearly supports a nucleotide range with a lower limit of 15 nucleotides and an upper limit of 500 nucleotides. There is express support for the lower limit and, with the disclosure of "up to several hundred nucleotides or more," one of skill in the art would also clearly be able to recognize support for the upper limit. Since U.S. 6,013,487 was filed prior to Puttaraju and Mitchell and the present application claims priority back to the application that ultimately issued as U.S. 6,013,487, the cited references cannot anticipate claims 94, 97, 107, 110, 116, 119, 127, 130, 138 and 141.

New claims 95, 98, 108, 111, 117, 120, 128, 131, 139 and 142 refer to pre-trans-splicing molecules comprising one or more target binding domains wherein said target binding domain is "between 15 and 411 nucleotides." For such claimed subject matter, Applicants claim priority back to parent applications. As indicated in the prior paragraphs, in its disclosure of target binding domain of "at least 15-30 nucleotides (and up to several hundred nucleotides or more)," one of skill in the art would also clearly be able to recognize that the earlier application, from which the present application claims priority would provide support for the claimed range of "between 15 and 411 nucleotides." Since the application that ultimately issued as U.S. 6,013,487 were filed prior to Puttaraju and Mitchell and the present application claims priority back to U.S. 6,013,487, the cited references cannot anticipate claims 95, 98, 108, 111, 117, 120, 128, 131, 139 and 142.

New claims 96, 99, 109, 112, 118, 121, 129, 132, 140 and 143 refer to pre-trans-splicing molecules comprising one or more target binding domains wherein said target binding

domain is "between 200 and 411 nucleotides." Neither Puttaraju nor Mitchell disclose pre-trans-splicing molecules having target binding domains in the presently claimed range of "between 200 and 411 nucleotides." Therefore, the cited references do not anticipate the subject matter of claims 96, 99, 109, 112, 118, 121, 129, 132, 140 and 143.

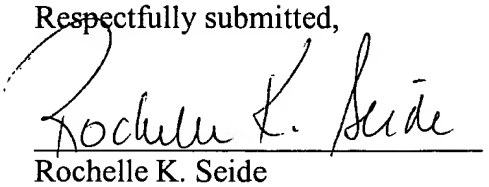
In addition, Applicants submit that the cited references do not anticipate the subject matter of new claims 146-155. For the subject matter of claims 146-155, Applicants claim priority back to U.S. Provisional Application No. 60/008, 717, and U.S.S.N 08/766,354, now U.S. 6,013,487, filed on December 13, 1996.

For all the foregoing reasons, the cited references do not render the pending claims anticipated, and therefore, the rejections should be withdrawn.

CONCLUSION

In view of the foregoing, we respectfully submit that all pending claims are allowable over the prior art and that the application is otherwise in condition for allowance in all respects. Applicants respectfully request the issuance of a Notice of Allowance.

Respectfully submitted,



Rochelle K. Seide
Patent Office Reg. No. 32,300

BAKER BOTTS L.L.P.
30 Rockefeller Plaza
New York, New York 10112-4498

Attorneys for Applicant
(212) 408-2500